"Low Carbon Green Growth" as a New Development Model for East Asia

A Keynote Presentation on 'Green Environment and Sustainable Development for Emerging Economies'

Special Session 4 at the PECC Conference on
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Contents, *cont'd*.

Economies Should Pursue Sustainable Growth

- Choices between promoting GDP and protecting the environment may be false choices, once environmental degradation is appropriately included in our measurement of economic performance.
- It has long been clear that GDP is an inadequate metric to gauge well-being over time particularly in its economic, environmental, and social dimensions, some aspects of which are often referred to as **sustainability**.
- One of the reasons why the crisis took many by surprise is that our measurement system failed and/or market participants and government officials were not focusing on the right side of statistical indicators.
- We are also facing a looming environmental crisis, especially associated with global warming. Market prices are distorted by the fact that there is no charge imposed on carbon emissions; and no account is made of the cost of these emissions in standard national income accounts.

Report by The Commission on the Measurement of Economic Performance and Social Progress, April 2009

OECD: Priority Areas for Urgent Action on Environment

- Climate change
  - Global temperature to rise by more than 5°C over the long-term
- Biodiversity loss
  - Expanding agricultural production, urbanization, infrastructure development, deforestation, climate change
- Water scarcity and shortage
  - 1 billion people more will live in areas of water stress by 2030.
  - More of them will be in South Asia.
  - Climate change will be a major contributor.
- Health impacts of environmental pollution and toxic chemicals
  - Premature deaths from ozone in urban air pollution.

OECD Environmental Outlook to 2030

High Growth in Asia-Pacific May Not Be Sustainable

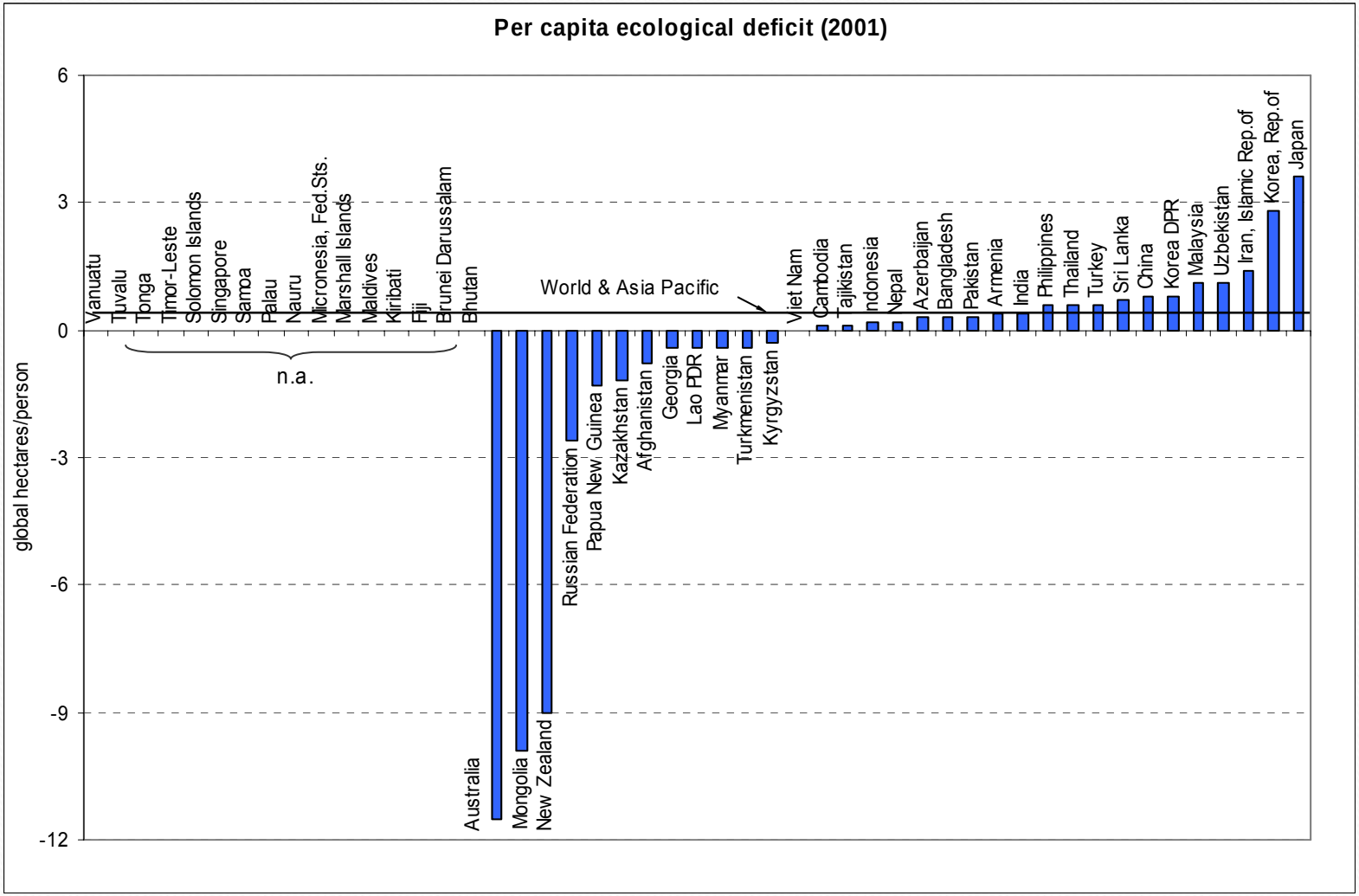
Among 33 Asia-Pacific countries, 20 are experiencing 'ecological deficits', with their 'Ecological Footprints' exceeding their 'Bio Capacities'.

- A country's Ecological Footprint is an indicator of human pressure on the biosphere, defined as the total area required to produce the food and fiber that it consumes, absorb the waste from its energy consumption, and provide space for its infrastructure. Note: It fails to capture non-renewable resources, toxic pollutions and species extinction.
- A country's Bio Capacity is defined as the total usable biological production capacity of a biologically productive area of the country.
- A country is experiencing an Ecological Deficit if its Footprint exceeds its Bio Capacity. Its Footprint is not sustainable as a result.

High economic growth of the regional economies will increase ecological deficits.

Hyun-Hoon Lee [The State of the Environment in Asia and the Pacific 2005 (UNESCAP)]

Per Capita Ecological Deficits (2001) of Asia-Pacific Countries



Ibid.

Higher Income, Larger Ecological Deficits

Ibid.

Green Growth Is Necessary and Possible

- Asia and the Pacific region should shift to 'green growth', a new paradigm of environmentally sustainable economic growth.
- 'Ecological modernization' (Martin Jänicke & Joseph Huber) makes green growth possible.
  - Transcend the ecology-economy divide, integrating 'external costs' into the functions of the market and the economy in general.
  - Give environmental issues and interests a permanent and central position in the decision-making processes of private firms and consumers.
  - Life-cycle analyses, environmental reports and audits, environmental management and audit and certification systems, consumer-oriented structures such as eco-labeling, development of consumer environmental standards, etc.
  - Greening of production and private firms *plus* greening of life styles and consumption.

Arthur P.J.Mol, Gert Spaargaren and David A. Sonnenfeld, Ecological Modernisation: Three Decades of Policy, Practice and Theoretical Reflection (....)

Green Growth Requires Ecological Modernization

- Growth could be maintained within a framework of stronger environmental protection, making the growth more benign in environmental terms than traditional patters of economic growth. These had seen the environment as a sink for wastes, and resources as free goods for industry to exploit.
- Environmental protection ceases to be an extra burden. It becomes an opportunity, a springboard to a different kind of economic development. It is possible to have higher living standards and other benefits of economic growth, together with enhanced environmental protection. Environmental protection and economic prosperity may be seen as properly proceeding hand-in-hand.

Stephen C. Young, The origins and evolving nature of ecological modernization (2009)

Features of Ecological Modernization

- Companies shift from simple compliance over regulation to a much broader interpretation of their environmental responsibilities. They put environmental issues at the heart of their corporate planning.
- Managers change the ways companies are run and develop new strategies, from remedial cleaning-up approaches to anticipatory/ preventative ones, so as to reduce its overall impact on the environment continuously. They incorporate clean technologies into capital investment programs.
- The government integrates economic and industrial policies with environmental policies, whilst pushing ahead with strategies to modernize the economy and state institutions. The aim is to inject environmental considerations into policy-making processes on issues like industry, energy, transport and trade, so that where possible environmental problems were removed at source.

Features of Ecological Modernization, *cont'd*.

- The government develops new techniques and instruments to implement policy, using economic instruments as a more flexible means of encouraging companies to minimize environmental damage than the traditional command and controls.
- Ecological modernization implies a partnership in which governments, businesses, moderate environmentalists, and scientists co-operate in the restructuring of the capitalist political economy.
- Science and technology play a stronger, more central role. In industry, R&D programs focus on using science and technology to reduce and eliminate industry's environmental impacts.
- The state's approach is reformed in ways that take greater account of private sector perspectives.
- Do not just seek sustainable development. Give greater emphasis on environmental protection and environmental quality, making economic development compatible with enhanced quality of life.

Stephen C. Young, The origins and evolving nature of ecological modernization (2009)

"Green is green."

- Operating within tighter environmental limits becomes commercial common sense.
  - Economic growth that damages the environment and the sustenance base undermines the prospects for future growth.
  - Environmental concerns produce demands for new products: more sophisticated pollution measuring equipment, environmental services and products like clean electric car. Even wastes become saleable assets.
  - The funding of such operations is a growth area for banks.
  - Environmental concerns create new marketing opportunities.
  - Environmental considerations can lead to increased costs. But these are not always a deterrent.

Stephen C. Young, The origins and evolving nature of ecological modernization (2009)

Korea Launches Green Growth for 'Ecological Modernization'

- On August 15, 2008, Korean President Lee Myung-bak proclaimed 'Low Carbon, Green Growth' as Korea's new development vision.
- To pursue goals by creating a synergistic relationship between economic growth and environmental protection:
  - Promote eco-friendly new growth engines for the economy;
  - Enhance the quality of life for the members of the society; and,
  - Contribute to the international efforts to flight climate change.
- Seeking a paradigm shift from quantity-oriented growth with high dependence on fossil-fuels to quality-oriented growth with steadily increasing independence from those fuels.
- Proposing transition from the era of industrial modernization to an era of ecological modernization.
  - Pursue 10 Policy Action Agendas geared to 3 Objectives.

Korea's Green Growth: The First Objective and 3 Policy Agendas

First, effectively deal with climate change and attain energy independence with 3 policy agendas:

1. Reduce GHG emissions - make carbon visible and reduce or recycle it;
2. Promote independence from oil and energy - increase energy efficiency, introduce clean energies, and expand nuclear energy;
3. Strengthen adaptive capacity to climate change - develop early-response system to climate change and better response to disasters, strengthen people's health resilience, ensure food security, enhance water resources management, seek climate-friendly ocean management as well as sustainable forestry management.

Korea's Green Growth: The Second Objective and 4 Policy Agendas

Second, create new growth engines by pursuing 4 policy agendas:

4. Develop and commercialize green technologies - expand strategic investment in green technologies, enhance the efficiency of green technology development, facilitate transfer of those technologies to the private sector and SMEs, strengthen the infrastructure for development of green technologies and industries, and actively pursue international cooperation;
5. Seek green transformation of industries and promote green industries - build a resource-recycling economic and industrial structure, seek greening of the individual industries, nurture green SMEs and ventures as well as green industrial clusters;
6. Upgrade the industrial structure - promote the convergence of new advanced technologies as well as high value-added services;
7. Create the foundation for a green economy – develop supportive financial services for green technologies and industries, create the carbon market, make the tax system environment-friendly, introduce regulations and incentives for a low-carbon society, ensure energy equity for the low income people, and create green jobs and nurture green human capital.

Korea's Green Growth: The Third Objective and 3 Policy Agendas

Third, become a model green growth country internationally by pursuing 3 policy agendas:

8. Create a green national land space and green transportation system – seek green transformation of the national land space and cities, expand ecological spaces, make buildings and transportation system green, and propagate bicycling;
9. Revolutionize the life styles - build a green growth educational system and promote green citizenry, propagate green life style campaigns, create green villages, and promote eco tourism;
10. Become a model green growth country – seek active international contribution for a global green growth, and help the developing countries pursue and realize green growth.

Korea's Implementation Strategy for Green Growth Actions

- Presidential Committee on Green Growth was created. PCGG prepared the National Green Growth Strategy (2009~ 2050).
- The Five-Year Plan for Green Growth (2009~2013) has been prepared.
  - A 2% of Korea's annual GDP is allocated to green investment, twice the amount recommended by UNEP's Green Economy Initiative.
  - This includes the stimulus package (January 2009) equivalent to US$38 billion, of which 80% was allocated to environmental themes such as water, waste, energy-efficient buildings, renewable energies, low-carbon vehicles and the rail network.
- Government is operating consultation with the science, business, finance and NGO communities.
- Various sectoral and task-specific policy vision and implementation roadmaps prepared.
- The Framework Law for Green Growth is pending in the National Assembly.

Korea's Initiatives for International Contribution for Green Growth

- Contributions to the Global Climate Change Deal
  - Trying to bridge differences between the advanced countries and the developing.

    *Proposed creation of NAMA Registry under which the developing countries will pursue voluntary reduction targets.
  - Seeking active contribution to discussion at G8, G20, MEF, OECD, APEC, etc.
  - Preparing to declare Korea's national emission reduction target, *probably* some variation of the target of a 4% reduction from the 2005 level.

Korea's Initiatives for International Contribution for Green Growth, *cont'd*.

- Contributions to Green Growth in Developing Countries
  - Launched an East Asia Climate Partnership Program for sharing of experiences and knowledge.

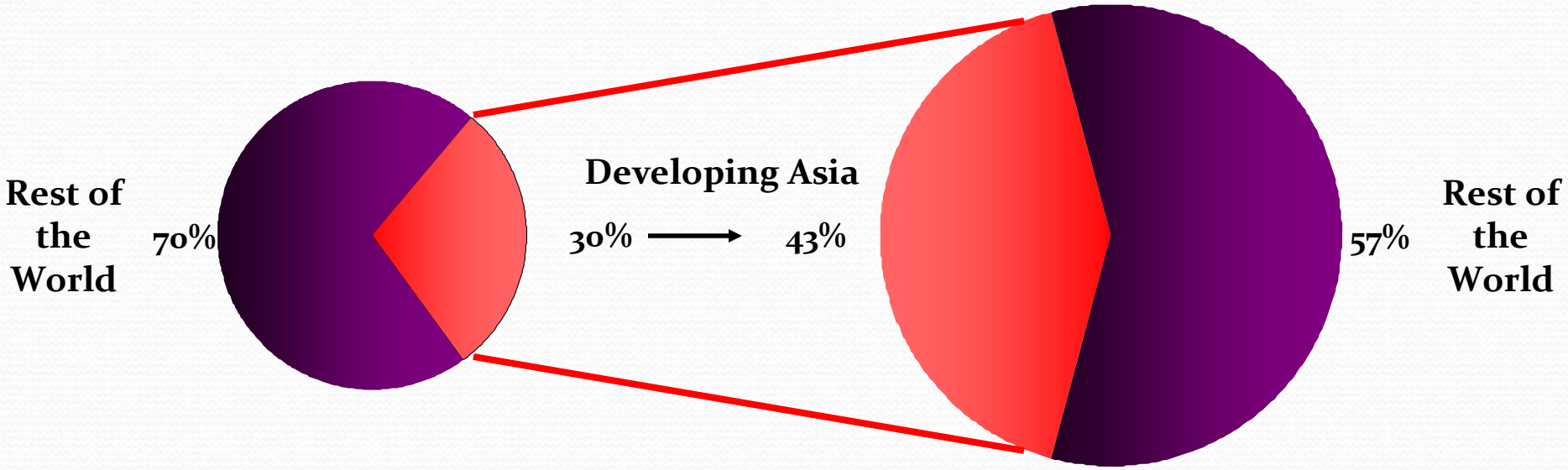
    *Held the First East Asia Forum in Seoul on May 29, 2009.
  - Will increase green ODA and contribution to UN Global Environment Fund.

    *Green ODA: 14%(2009)→20%(2013)
  - Seeking to accelerate transfer of green technologies.
- Preparing to Rise as a 'Green Hub Korea'
  - Will emerge as a show case for a green country and economy.
  - Preparing to serve as a leading center on climate change in Asia.

    *An Asian Forestry Cooperation Organization

    *An APEC Climate Center

Developing Asia's Share in Global CO_2 Emissions from Energy Consumption



2006

Actual

Total = 27,889 Mil tons CO_2

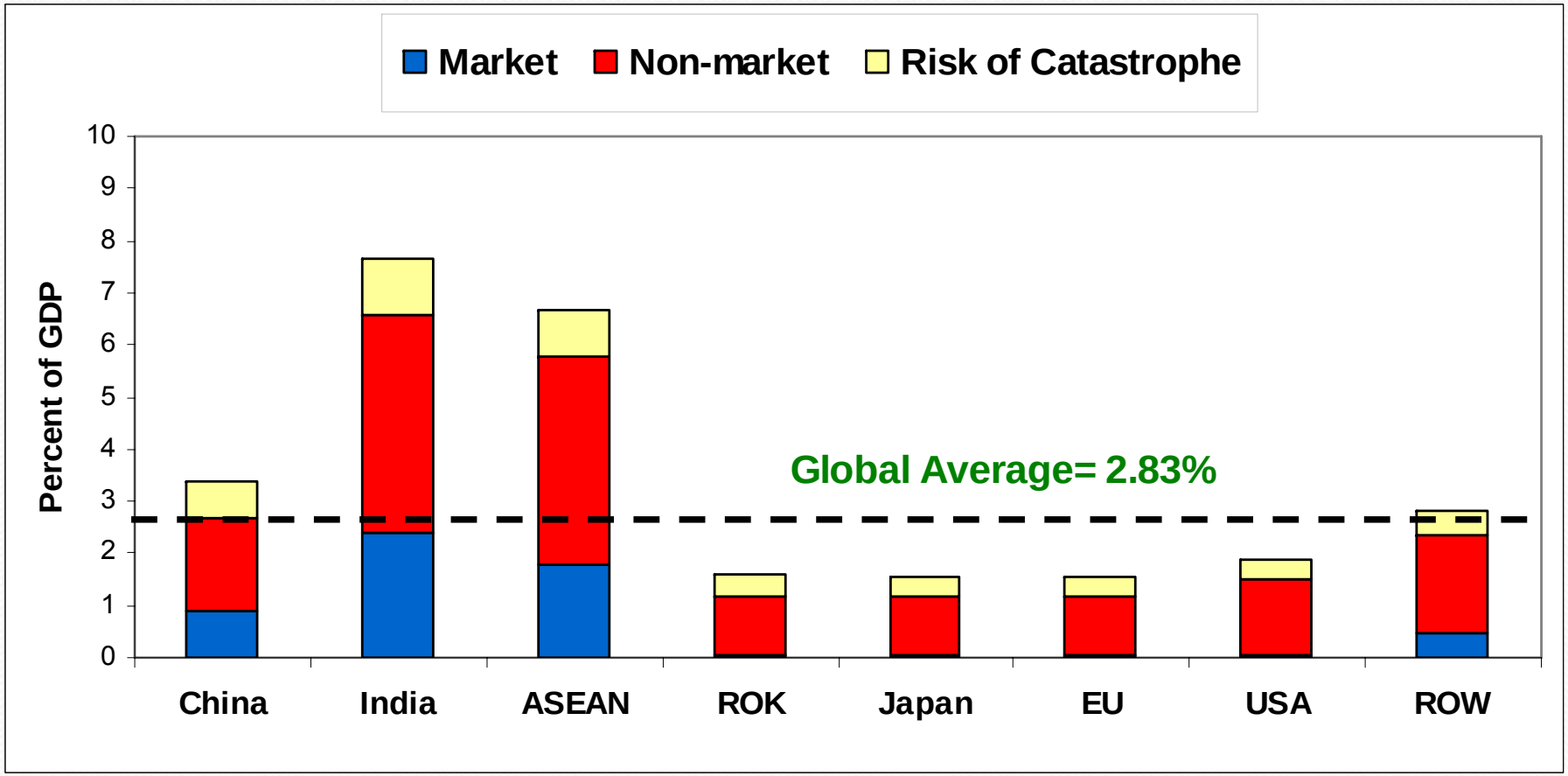
2030

Projection

Total = 40,553 Mil tons CO_2

ADB(2009), The Economics of Climate Change in Southeast Asia: A Regional Review

Mean GDP Losses by 2100 under A2-Reference Scenario



ADB(2009), The Economics of Climate Change in Southeast Asia: A Regional Review

Vulnerabilities of Southeast Asia to Climate Change

- 574 million people
  - 19% living below $1.25/day
  - 44% living below $2.00/day
- Fastest urbanization
  - Urban population growing at 1.6~4.4%
  - Mostly in coastal areas.
- Ranks the 3rd in the world in the coastline length.
- Major producers and suppliers of grains, industrial crops and forest products.
- Region's share of global GHG emissions : 12% in 2000.

Ibid.

Impact of Climate Change on Southeast Asia

- Temperature rising 0.1~0.3°C per decade.
  - 1.30~2.32°C (IPCC, 2007)
- Precipitation decreased in many parts, decreasing rice crops.
- The sea level rising at 1~3 mm per decade.
- Extreme events increasing in intensity and frequency.
  - Damages often worth millions and billions of dollars
  - Large losses of lives.
- SEA could lose 6.7% of GDP by 2100, in non-market impacts and catastrophic risks are also taken into account.

Ibid.

Policy Responses to Climate Change for Southeast Asia

- Both adaptation and mitigation are necessary.
  - Planting mangroves sequesters carbon and buffers the effects of storm surges on infrastructures.
  - Water storage beneficial for flood risk reduction, drought response and clean high energy generation.
- Enhancing the adaptive capacity is essential.
  - Technology development: drought and saline resistant crops, efficient irrigation, water conservation, improved farming
  - Infrastructure: climate-proofed infra, risk and vulnerability assessment.
  - Weather data collection and forecasts, early warning systems.
- International financial flows and technology transfer are essential for successful adaption and mitigation.
  - Enhance capacities to make better uses of the existing and potential sources.

Ibid.

Conclusion: Challenges for APEC Cooperation

- Low Carbon Green Growth should be on the core agenda for APEC.
  - Mainstreamed into the global agenda for 'strong, balanced and sustainable growth' at UN, G8, G8+5, G20, OECD, etc.
- The Asia-Pacific Partnership on Clean Development and Climate (APP) may be extended to APEC.
  - U.S., China, Japan, Korea, Australia, India, and Canada
  - Promotes development and diffusion of alternative energy technologies.
- Green Growth is an important and promising area for APEC cooperation.
  - Liberalize and facilitate trade and investment in environmental goods and services.

    * "Green Tariffs" may be introduced.

    * May eliminate tariffs on environmental goods, creating a trade of $8 billion.
  - Economic and Technical Cooperation may play a critical role for green growth in East Asia and Pacific Americas.